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lamina 19 is pressed onto the substrate 8 by the pressing roller 22. The face of the lamina opposed to the face on which the adhesive substance has been smeared is protected by an anti-adhesive film, in order to prevent the turns of the lamina 19 on the reel 18 from adhering to each other. The anti-adhesive film is re-wound on a collecting roller 25, after the lamina 19 has been separated from the film and deposited on the substrate 8.

FIG. 10 illustrates a further example of realization of the method according to the invention, particularly suitable for making on a single substrate 8 a plurality of dipole antennas having rectilinear arm, like the antenna A in FIG. 11.

In this example of realization, the assembly comprising the reel 18, the pressing roller 22 and the cutting device 23, is kept stationary, while the substrate 8 is moved under said assembly, for instance by unwinding the substrate from a first reel 26 and re-winding it on a second reel 27. On the reel 18 a plurality of laminas 19 of electrically conductive material may be wound. The laminas 19 are arranged in such a way as to be parallel with each other when they are unwound from the reel 18. As an alternative, a plurality of reel 18 arranged side by side, on each of which a lamina 19 is wound, may be provided, each reel being operatively associated with a respective pressing roller 22 and a respective cutting device 23. In this way it is possible to simultaneously deposit and fix a plurality of stretches of lamina 19 on the substrate 8, thus obtaining a plurality of dipole antennas A with rectilinear arms in a single production phase. Downstream the assembly comprised of the reel 18, the pressing roller 22 and the cutting device 23, are arranged in series a depositing device 28 for depositing, between the two arms of the dipole antenna A, a modular element EM (FIG. 12) on which a microchip is mounted, and a soldering device 29 to electrically connect by soldering the modular element EM and, thus, the microchip MC to the arms of the dipole antenna A.

The modular element EM with the microchip MC is used to make any type of transponder, such as, for instance, the transponders with dipole antennas B, C, D shown in FIGS. 13, 14, and 15, or even induction transponders. The arms of the dipole antennas B, C, D, respectively B1b, B2b, B1c, B2c, B1d, B2d, are connected with each other by means of the modular element EM thus obtaining the electrical connection between the two arms of the dipole antenna and the microchip MC.

Likewise, the ends of an antenna of an induction transponder are connected with each other by means of a modular element EM.

In the practical embodiment, the materials, the dimensions and the constructional details can be different from those indicated, but be technically equivalent to them without thereby departing from the scope of the invention defined by the claims.

The invention claimed is:

1. An apparatus for making an antenna for wire transponders of electrically conductive material, comprising at least one depositing device for depositing said wire on a substrate placed on a support element, said at least one depositing device and said substrate being movable with respect to each other, wherein the apparatus further comprises at least one applicator device for applying an adhesive substance to said

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wire before said wire is deposited on said substrate, wherein said at least one applicator device comprises a container supplied with said adhesive substance, said wire passing through said container before being deposited on said substrate, and wherein said at least one depositing device comprises a guide element for guiding said wire inside said container and a dispensing element for guiding said wire outside the container for subsequent depositing on said substrate.

2. The apparatus according to claim 1, wherein said at least one depositing device and said substrate are movable with respect to one another along three directions substantially parallel to the axes of a Cartesian reference system.

3. The apparatus according to claim 1, furthermore comprising at least one cutting device for cutting said wire near a lower end of said depositing device.

4. An apparatus for making an antenna for wire transponders of electrically conductive material, comprising at least one depositing device for depositing said wire on a substrate placed on a support element, said at least one depositing device and said substrate being movable with respect to each other, wherein the apparatus further comprises at least one applicator device for applying an adhesive substance to said wire before said wire is deposited on said substrate, and a slide movable along a first direction substantially parallel to a first axis of a Cartesian reference system, said at least one depositing device being associated with said slide.

5. The apparatus according to claim 4, wherein said at least one depositing device is movable along a direction substantially parallel to a second axis of said Cartesian reference system.

6. The apparatus according to claim 4, wherein said slide is slidably coupled with a support element, said support element being movable along a direction substantially parallel to a third axis of said Cartesian reference system.

7. The apparatus according to claim 6, wherein said support element comprises a pair of uprights, connected above by at least one crosspiece, said slide being slidably coupled with said at least one crosspiece.

8. The apparatus according to claim 7, wherein said at least one crosspiece is movable along a direction parallel to a second axis of said Cartesian reference system.

9. The apparatus according to claim 7, wherein a plurality of slides is slidably coupled with said at least one crosspiece, each of said slides being associated with a respective depositing device.

10. The apparatus according to claim 6, wherein said support element comprises a plurality of crosspieces fixed to said uprights, with each crosspiece of said plurality of crosspieces there being slidably coupled at least one slide means, associated with a respective depositing device.

11. The apparatus according to claim 10, wherein with each crosspiece of said plurality of crosspieces there is associated a plurality of slides, each of said slides being associated with a respective depositing device.

12. The apparatus according to claim 10, wherein each crosspiece of said plurality of crosspieces is movable in a direction substantially parallel to a second axis of said Cartesian reference system.

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